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EXAMINER

DRODGE, JOSEPH W

ART UNIT PAPER NUMBER

1723

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/713,944

Applicant(s)

GETTMAN, DOUG

Examiner

Joseph W. Drodge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1103.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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The indicated allowability of claims 17 and 27 is withdrawn in view of the newly discovered reference(s) to Mains patent 6,444,119. Rejections based on the newly cited reference(s) follow.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1,2,4,5,7-10,12-14,17-23,25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horner et al patent 5,244,579 in view of Marius et al patent 5,059,317, Donath German patent DE 3,243,147 (and translated Derwent Abstract) and Mains patent 6,444,119.

Horner et al disclose a complex water treatment installation that includes systems of: raw water supply from raw or sea water source (column 1, lines 6-19), filtration (column 5, lines 50-55), reverse osmosis (the 2<sup>nd</sup> pass RO unit of column 6, lines 27-37), desalination (the 1<sup>st</sup> pass RO unit of column 10, lines 20-22 and column

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11, lines 57-59 for "seawater" and "to demineralize"), storage (column 5, lines 30-32), ion-exchange (column 2, lines 60-61), heating (column 12, lines 31-37 and column 13, line 63), dispensing/distribution (column 1, lines 63-65 and column 2, lines 42-43), piping with valves (column 11, lines 7-17), provision of electric power (column 12, lines 24-25) and discloses a vehicle for transporting the entire installation (column 1, lines 6-12 and other text).

The claims all differ in requiring that the ion exchange system be of the "sodium" type. However, Donath teaches such type ion exchange system in an installation for purifying raw water such as sea water (part b, (2)) of Basic-Abstract as does Marius et al at column 3, lines 26-31. Thus it would have been obvious to one of ordinary skill in the art to have utilized a sodium type ion exchange unit in the ion exchange system of Horner, as taught by Donath and Marius, to effectively soften the raw water and remove a maximum of suspended solids and mineral matter.

The claims also differ in requiring a multi-service, multi-environment, multi-operator mobile telecommunication system having satellite and terrestrial transmission and receiving capability. However, Mains teaches a mobile, self-contained complex water and oil treatment system comprising complex treatment components (column 4, lines 28-39 and column 9, lines 43-53) with remote, multi-service, two-way data transmission including via land ("terrestrial") communication (column 3, lines 52-55), satellite transmission (column 3, lines 50-52). It would have been further obvious to one of ordinary skill in the art to have augmented the Horner et al system with such remote, multi-service telecommunication as taught by Mains, to enable remote control of the

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water treatment system irregardless of whatever type hostile environment in which it is deployed.

Horner also discloses the following: a booster pump at column 9, line 16 for claim 2, chlorine disinfection at column 2, lines 56-58 for claims 9-10, a truck bed for fluid "containment" for claim 14, plural storage tanks for both non-potable and potable water in the form of a bladder tank at column 10, lines 40-42 for claim 19, pre-filters upstream of the reverse osmosis units at column 5, lines 49-59 for claim 20, suggestion of positive displacement for the booster pump at column 9, lines 12-18 for claim 22, the heater being operable for elevating temperatures by at least 100 degrees farenheit at column 10, line 66-column 11, line 6 where operation at temperatures of well below zero or under "frigid" conditions are discussed.

Marius teaches the further features of ozone disinfection at column 3, lines 20-22 for claim 12, rainwater collection in raw water collection source 2, the ion exchange system comprising softener and source of salt or "brine tank" at column 3, lines 26-31 for claim 18, a tank for drinking water storage at column 4, lines 15-16 for claim 19, operability of the reverse osmosis units of removing greater than 90% of a variety of substances at column 3, lines 32-36 for claim 21.

The Donath publication further teaches combining reverse osmosis with distillation systems that comprise evaporation and condensing in the Equivalent Abstracts section for claims 5 through 8.

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For claim 17, Horner further discloses pump(s), reticulated or multimedia filter, bag or basket filters and final cartridge filters in a preliminary raw water filtration system (column 7, lines 56-66).

Regarding claim 17, Mains also teaches means for skimming accumulated surface oil from mixed liquid storage and separation tanks (column 6, lines 8-15) and coalescing plates (column 5, lines 1-23) to aid in the separation of oil and water.

Regarding claims 25 and 26, Mains also discloses the remote transmission system to include a global positioning system/radiolocation capacity at column 11, lines 10-29 and column 12, lines 39-56.

Claims 3,6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horner et al in view of Marius et al, Mains and Donath as applied to claim 1 above, and further in view of Faqih patent 6,684,648.

Claims 3 and 6 also require a solar energy source. Faqih teaches such source utilized for transportable water treatment a column 7, lines 33-38. It would have been further obvious to one of ordinary skill in the art to have utilized the solar energy source of Faqih in the Horner et al installation, in order to extract some water from humid air and to readily provide energy in hot, sunny locations without dependence on electricity.

Claim 11 also requires UV treatment, as taught in column 19, lines 43-47 of Faqih. It would have been further obvious to have provided the UV treatment of Faqih in the Horner et al installation , since UV is more effective for sterilizing relatively small quantities of water that are not held in storage for long periods of time.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horner et al in view of Marius et al, Mains and Donath as applied to claim 1 above, and further in view of Capehart patent 5,547,584. Claim 15 further differs in requiring a sand filter, such as taught by Capehart at column 9, lines 28-30. It would have been further obvious to have provided a sand filter such as taught by Capehart since such type filters strain large amounts of larger debris from incoming raw water while allowing a high flow rate therethrough.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horner et al in view of Marius et al, Mains and Donath as applied to claim 1 above, and further in view of Wang patent 5,190,659.

Claim 16 also requires a diatomaceous earth containing filter, such as taught by Wang in multi-component water purification system in the Summary of the Invention. It would have been further obvious to the skilled artisan to have provided diatomaceous earth with one or more of the filters of the Horner et al composite installation to reduce clogging of the filter(s) and provide greater filtration flux rates.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horner et al in view of Marius et al, Mains and Donath as applied to claim 1 above, and further in view of Kuepper patent 6,103,125.

Claim 24 also differs in requiring the system to comprise a shower head. However, Kuepper teaches that complex water desalination and purifying systems can use treated water that is suitable for drinking, for other purposes as well, such as showering facilities, while maintaining water conservation priorities by recirculating most

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utilized water (column 3, lines 43-44 and column 7, lines 29-34). It would have been further obvious to have incorporated a shower facility/shower head into the Horner system, as taught by Kuepper, to more completely meet additional needs of users for treated, potable water of the portable system, without requiring a separate facility for supplying water for showering.

Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horner et al patent 5,244,579 in view of Marius et al patent 5,059,317, Donath German patent DE 3,243,147 (and translated Derwent Abstract), Mains patent 6,444,119 and Kuepper patent 6,103,125, and further in view of Faqih patent 6,684,648.

Horner et al disclose a complex water treatment installation that includes systems of: raw water supply from raw or sea water source (column 1, lines 6-19), filtration (column 5, lines 50-55), reverse osmosis (the 2<sup>nd</sup> pass RO unit of column 6, lines 27-37), desalination (the 1<sup>st</sup> pass RO unit of column 10, lines 20-22 and column 11, lines 57-59 for "seawater" and "to demineralize"), storage (column 5, lines 30-32), ion-exchange (column 2, lines 60-61), heating (column 12, lines 31-37 and column 13, line 63), dispensing/distribution (column 1, lines 63-65 and column 2, lines 42-43), piping with valves (column 11, lines 7-17), provision of electric power (column 12, lines 24-25) and discloses a vehicle for transporting the entire installation (column 1, lines 6-12 and other text).

Horner also discloses the following: a booster pump 14 at column 9, line 16, chlorine disinfection at column 2, lines 56-58, a truck bed for fluid "containment", plural



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storage tanks for both non-potable and potable water in the form of a bladder tank at column 10, lines 40-42, pre-filters upstream of the reverse osmosis units at column 5, lines 49-59, suggestion of positive displacement for the booster pump at column 9, lines 12-18, the heater being operable for elevating temperatures by at least 100 degrees fahrenheit at column 10, line 66-column 11, line 6 where operation at temperatures of well below zero or under "frigid" conditions are discussed, central control system or PLC (column 12, lines 23-27), compressed air and electrical communication

The claims all differ in requiring that the ion exchange system be of the "sodium" type. However, Donath teaches such type ion exchange system in an installation for purifying raw water such as sea water (part b, (2)) of Basic-Abstract as does Marius et al at column 3, lines 26-31. Thus it would have been obvious to one of ordinary skill in the art to have utilized a sodium type ion exchange unit in the ion exchange system of Horner, as taught by Donath and Marius, to effectively soften the raw water and remove a maximum of suspended solids and mineral matter.

The claims also differ in requiring a multi-service, multi-environment, multi-operator mobile telecommunication system having satellite and terrestrial transmission and receiving capability, along with a global positioning system. However, Mains teaches a mobile, self-contained complex water and oil treatment system comprising complex treatment components (column 4, lines 28-39 and column 9, lines 43-53) with remote, multi-service, two-way data transmission including via land ("terrestrial") communication (column 3, lines 52-55), satellite transmission (column 3, lines 50-52), as well as the GPS system (column 11, lines 10-29). It would have been further

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obvious to one of ordinary skill in the art to have augmented the Horner et al system with such remote, multi-service telecommunication as taught by Mains, to enable remote control of the water treatment system irregardless of whatever type hostile environment in which it is deployed.

The claims also differ in requiring the system to comprise a shower head. However, Kuepper teaches that complex water desalination and purifying systems can use treated water that is suitable for drinking, for other purposes as well, such as showering facilities, while maintaining water conservation priorities by recirculating most utilized water (column 3, lines 43-44 and column 7, lines 29-34). It would have been further obvious to have incorporated a shower facility/shower head into the Horner system, as taught by Kuepper, to more completely meet additional needs of users for treated, potable water of the portable system, without requiring a separate facility for supplying water for showering.

For claim 27, Horner further discloses pump(s), reticulated or multimedia filter, bag or basket filters and final cartridge filters in a preliminary raw water filtration system (column 7, lines 56-66).

Regarding claim 27, Mains also teaches means for skimming accumulated surface oil from mixed liquid storage and separation tanks (column 6, lines 8-15) and coalescing plates (column 5, lines 1-23) to aid in the separation of oil and water.

Claim 27 also requires a solar energy source. Faqih teaches such source utilized for transportable water treatment a column 7, lines 33-38. It would have been

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further obvious to one of ordinary skill in the art to have utilized the solar energy source of Faqih in the Horner et al installation, in order to extract some water from humid air and to readily provide energy in hot, sunny locations without dependence on electricity.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

February 1, 2006

  
JOSEPH DRODGE  
PRIMARY EXAMINER